

UNITED STATES DISTRICT COURT OF
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

United States District Court
Southern District of Texas
FILED

FEB 18 2005

Michael N. Milby, Clerk

MICHELLE ROD, INDIVIDUAL AND §
AS REPRESENTATIVE OF THE ESTATE §
OF RANDALL ROD, DECEASED, AND AS §
NEXT FRIEND OF BRIAN ROD, MINOR, §
ANGELA ROD, INDIVIDUALLY, §
BETHANY ROD, INDIVIDUALLY, AND §
LORRAINE M. ROD, INDIVIDUALLY §

VS §

C.A.NO. 03-CV-5382

FORD MOTOR COMPANY §

REPLY TO PLAINTIFFS' RESPONSE TO MOTION TO EXCLUDE AND/OR
LIMIT EXPERT OPINIONS FROM
PLAINTIFFS' WITNESS GERALD ROSENBLUTH

TO THE HONORABLE UNITED STATES DISTRICT COURT:

NOW COMES, Defendant, Ford Motor Company ("Ford"), and files this Reply to the Plaintiffs' Response to Ford's Motion requesting that the Court apply the legal standards set forth below to the opinion testimony offered by Plaintiffs and, upon doing so, exclude or limit the testimony of Plaintiffs' expert Gerald Rosenbluth. In support thereof, Ford would respectively show the Court the following.

I.

INTRODUCTION AND SUMMARY

Despite the voluminous technical jargon used by the parties in their Motion and the Response, the central issue before the Court is relatively simple: Plaintiffs' expert, Gerald Rosenbluth, believes there was a *"...sudden unexpected, inadvertent and catastrophic momentary, neutral event"* (see, Exhibit 1, Rosenbluth Report, 2/25/04, "Conclusions and

Opinions”, p. 7)¹, which he asserts can override the transmission park safety feature and allow the vehicle to free roll, which was a direct and producing cause of Mr. Rod's death. He has not, and cannot, demonstrate any reliable scientific basis that such a “sudden unexpected, inadvertent and catastrophic momentary, neutral event” can occur under the circumstances of this case or that it did occur in this instance. For this simple reason his central thesis contains a glaring and obvious “analytical gap,” which renders his opinion inadmissible under *General Electric Co. v Joiner*, 522 U.S. 136 (1997).

Plaintiffs’ response consists entirely of a series of red herrings to distract the Court’s attention from this fundamental, underlying flaw in Rosenbluth’s opinion. Plaintiffs write extensively about a problem with the transmission design that might cause the vehicle to be stuck in four-wheel drive low – but nothing about a hidden neutral, or vehicles rolling away when they should not. To further distract the Court, Plaintiffs point to owner complaints about transmissions stuck in four-wheel drive – but none of them have to do with a “hidden neutral” condition or runaway vehicles as they claim occurred in this case.

In short, what the Plaintiffs’ response hopes to achieve is to distract the Court from the complete absence of testing or analysis regarding the supposed “sudden unexpected, inadvertent and catastrophic momentary, neutral event” that Rosenbluth opines is the reason for Mr. Rod’s death.

II. Argument and Authorities

Perhaps nowhere is the flaw in Rosenbluth’s opinions (and Plaintiffs’ intended use of those opinions) more obvious than in their own Response to Ford’s *Daubert* Motion. In

¹ All exhibit references are to the exhibits attached to Ford’s original *Daubert* Motion, unless otherwise indicated.

sections “III” and “VII” of their Response, Plaintiffs attempt to address the purported basis for Rosenbluth’s central opinion regarding the sudden unexpected, inadvertent and catastrophic momentary, neutral event that allegedly allowed the vehicle to roll away. However, the analytical gap that renders Rosenbluth’s opinion inadmissible is all too apparent – there is no testing or analysis to demonstrate that the shift on the fly system can result in the vehicle falling into a dangerous “hidden neutral” without specifically manipulating into that position, i.e. there is no basis for Rosenbluth’s opinion that the “hidden neutral” condition allowing the vehicle to begin rolling away can occur under ordinary circumstances. Instead, the Plaintiffs offer unsupported hypotheticals and customer complaints about the system getting “stuck” in “4x4 low” mode that have absolutely nothing to do with Rosenbluth’s theory in this case. This attempted red herring only serves to underscore the absence of any *real* basis for Rosenbluth’s central opinion in this case.

Plaintiffs purport to catalogue a series of complaints and concerns about the system, none of which shed any light on their theory that the vehicle rolled away because of a catastrophic neutral event. In paragraphs 13-16 of their Response (section “III”) they discuss evidence of how the shift on the fly transmission operates and that there is a potential problem with wear on the range fork pads that can cause a delayed shift or cause the transmission to get stuck in “4x4 low” mode. But tellingly, Plaintiffs mention no evidence that it is possible for this condition to result in the transmission falling into “hidden neutral” or causing the vehicle to roll away. This is a theme that repeats itself throughout the Response.

In paragraphs 39 and 40, Plaintiffs mention complaints about a delay in shifting or a failure to “shift out of 4 wheel drive low.” They spend three full pages cataloguing twenty (20) complaints about transmissions allegedly stuck in 4x4 low – *none of which involve even an allegation of a hidden “neutral” or a rolling vehicle*. In paragraph 41, Plaintiffs refer to testimony from a Ford employee (Vince Amatangelo) admitting that the vehicle can experience a “delayed shift” but, tellingly, nothing about a hidden neutral event or a runaway vehicle. Likewise, they refer to testimony about a “partial shift” or a “stuck or blocked” transmission in paragraph 42, but still nothing about a hidden “neutral” or a vehicle rolling away.

Then, in paragraph 43, the very next paragraph after they have set out their best evidence that the transmission can be delayed in shifting or get “stuck” in “4x4 low” mode (but nothing about a hidden “neutral” or rollaway), Plaintiffs cite testimony from Fred King suggesting that *if* the vehicle could accidentally drop into a hidden neutral condition it would be defective. The gap is obvious. There is no connection between a delayed or stuck transmission shift and a “hidden neutral” or – as is necessary if Rosenbluth’s opinion has any basis – the possibility of a runaway vehicle. Indeed, the twenty complaints they detail in paragraphs 39 and 40 are nothing more than the “stuck” transmission and delayed shifts that Engle and Amatangelo admit are possible in the testimony referred to in paragraphs 41 and 42.

Delayed shift or a transmission stuck in “4x4 low” is not what this case is allegedly about. And therein lies the “analytical gap” – made manifest and obvious in Plaintiffs’ own Response to Ford’s *Daubert* Motion. This case is about Rosenbluth’s opinion that this

accident was caused by a “sudden unexpected, inadvertent and catastrophic momentary, neutral event.” What Rosenbluth is saying with that phrase is that he has not been able to scientifically duplicate what he claims happened in this incident. And indeed, Plaintiffs’ Response to Ford’s *Daubert* motion bears that out. At no point do they refer to any legitimate testing of a shift on the fly transmission under ordinary conditions that would demonstrate that it is even possible for the vehicle to end up in a “hidden neutral” condition and roll away.

Indeed, despite their apparent exhaustive search of customer communications and complaints that generated the three page list in paragraph 40 of Plaintiffs’ Response, none, not a single one, of the complaints pertains to a vehicle dropping into a neutral condition or rolling away. Why do Plaintiffs go into such detail regarding these irrelevant and unrelated complaints? To act as a red herring to distract the Court from the real issue – that Rosenbluth has no testing or analysis to connect his speculative theory of what happened (the supposed “hidden neutral” causing the vehicle to roll away) to the facts of this case. To remind the Court of Rosenbluth’s own words:

"I have not been able to reproduce it [a sudden unexpected, inadvertent and catastrophic momentary, neutral event] electronically or mechanically as I believe it would have occurred in the Rod vehicle".

(*Exhibit 2* to Ford’s *Daubert* Motion, Rosenbluth Depo., 92:5-7)

In sum, the catalogue of “analytical gaps” and missing evidence detailed in Ford’s Motion have gone unanswered. Instead, Plaintiffs, in their Response, chose to evade the central issue raised by Ford’s *Daubert* challenge to Rosenbluth’s opinion. These problems, as admitted to by Rosenbluth himself, still render his opinions inadmissible:

- Rosenbluth never worked in any capacity with an identical or exemplar transfer case before reaching his conclusions that the transfer case had the "*.. potential to exhibit a sudden unexpected, inadvertent and catastrophic momentary, neutral event as was more likely than not achieved in the transfer case*". (See, Exhibit 1, Rosenbluth Report, 2/25/04, "Conclusions and Opinions", pp. 7, attached).
- Rosenbluth has never demonstrated by testing or experimentation that this so-called "*potential to exhibit a sudden unexpected, inadvertent and catastrophic momentary, neutral event*" could actually occur in the Rod vehicle, but instead admitted that he was not able to reproduce this phenomenon in the Rod truck: "*I have not been able to reproduce electronically or mechanically as I believe it would have occurred in the Rod vehicle*". (See, Exhibit 2, Rosenbluth Depo., 92:5-7)
- Rosenbluth "tested" an exemplar vehicle, but likewise could not demonstrate that this exemplar vehicle could be made to experience the so-called "*potential to exhibit a sudden unexpected, inadvertent and catastrophic momentary, neutral event*", (Exhibit 2, Rosenbluth Depo., 92:5-7)
- Rosenbluth has never tested, and cannot prove through the use of competent admissible evidence, his theory that this so-called "*potential to exhibit a sudden unexpected, inadvertent and catastrophic momentary, neutral event*" could be caused by "excessive" wear in the range fork pads. (Rosenbluth Depo. 92:5-7)
- Rosenbluth has never tested, and cannot prove through the use of competent admissible evidence, his theory that this so-called "*potential to exhibit a sudden unexpected, inadvertent and catastrophic momentary, neutral event*" can be caused by "dampness" in the GEM's electrical contacts, and in fact he admitted he could *not* test this assumption. (Exhibit 2, Rosenbluth Depo., 120:16-121:6)
- Rosenbluth flatly admits his theories that moisture or dampness in the electronic GEM controller could cause this so-called "*potential to exhibit a sudden unexpected, inadvertent and catastrophic momentary, neutral event*" cannot be elevated to a reasonable scientific certainty by any available testing, investigation or the evidence. Rather, he admits that: "*I cannot tell you that on that day [of this occurrence], within a reasonable degree of scientific and technological certainty, that moisture within the [GEM]*

connectors caused the encoder to fail and caused this accident." (Exhibit 2, Rosenbluth Depo., 39:13-40:13).

- Rosenbluth concludes that prior to the time Rod crawled underneath this truck, its transfer case "began" the process of shifting out of 4WL range, but "doesn't complete that" and "doesn't come back". Yet he admits he "can't tell [the jury] specifically what's going to stop it from completing, but [that] it [the transfer case] doesn't achieve a neutral". (Exhibit 2, 120:11-19). More significantly, however, is his bare assertion that there are several "reasonable probabilities" to support his theory that the transfer case behaved in this fashion, but that he "can't test them all." (Exhibit 2, 120:20-121:5). He then turns around and admits what he has just characterized as "reasonable probabilities" for explaining this alleged aberrant behavior are nothing more than mere, unproven "hypotheses", about which he "can't be specific". (Exhibit 2, 121:3-6)
- Rosenbluth concludes that once Rod was fully underneath this truck, the transfer case then "falls into neutral" (Exhibit 2, 120:11-19). When asked to explain how this could have occurred, Rosenbluth speculates that it was "engine, vibration, things of that nature", but once again is forced to admit he cannot replicate this key facet of his analysis by testing or experimentation, either. (Exhibit 2, 122:23-123:12)
- Rosenbluth voiced in the early stages of his deposition that he would "tell the ladies and gentlemen of the jury that wear on the pads *did cause* or contribute to the failure mode" (Exhibit 2, Rosenbluth Depo, 40:8-12) and, therefore, played a role in the so-called "sudden unexpected, inadvertent and catastrophic momentary, neutral event," but later completely impeached himself. When asked: '[c]an the momentary neutral event occur if the pads are *not* worn', Rosenbluth replied: '*yes*'. (Exhibit 2, 148:3-5)
- Moreover, in mid-deposition, Rosenbluth birthed an entirely *new* hypothesis about how this event occurred, which he admits *does not* "need the [worn] pads" nor "need a damp or wet or muddy electrical connection to get the momentary neutral event" (Exhibit 2, Rosenbluth Depo., 48:8-11). He calls this new theoretical iteration the "skip lock" theory, and concludes the truck rolled because the transfer case achieved a "quasi-neutral" condition which occurred when the "gear teeth" in the transfer case first "partially engaged", then disengaged and "skipped from tooth to tooth" (while Rod was lying underneath), before "skipping" back into an engaged position, prior to

when the police arrived to investigate and found the truck's wheels locked in park. (See, generally, Exhibit 2, Rosenbluth Depo., 126:2-146-18)

- Obviously, Rosenbluth has not tested, and consequently has no foundation for, his revised theory that "skip-lock" caused this occurrence. Nonetheless, he now asserts that "skip lock" is "more likely than not" what occurred in this event. (Exhibit 2, Rosenbluth Depo., 130:5-22). Under this revised scenario, "pad wear" is characterized as merely a condition which "would exacerbate", and/or "increase the probability of something like that [the Rod occurrence] happening", although he had already ruled out pad wear as a predicate to achieve the "momentary, neutral event". (Id., 153:14-21, 148:3-5)
- Rosenbluth admits there were "multiples of thousands" of Ford units equipped with this ESOF transfer case sold, but that he could not find one single reported incident of an "intermittent neutral event" reported in government data bases, Ford's records or other sources normally relied upon by experts in automotive products. (Exhibit 2, Rosenbluth Depo., 148:16-149:6, 152:15-153:7). And, he admits that there is no evidence that anything even remotely similar had occurred in the Rod vehicle prior to or after this event (Exhibit 2., 151:11-16) and there is no evidence of any service problems related to the truck's transmission or transfer case prior to the event. (Exhibit 2, 151:17-20)


Plaintiffs have had their opportunity to respond, and these challenges to Rosenbluth's opinions have gone largely *unanswered*. The decision is clear. The Court should grant the *Daubert* motion and exclude Rosenbluth's opinions from trial.

III. CONCLUSIONS AND RELIEF REQUESTED

WHEREFORE, PREMISES CONSIDERED, Ford Motor Company respectfully requests the opinions of Gerald Rosenbluth relating to design defect, warnings and causation, enumerated above, be stricken pursuant to the Federal Rules of Evidence and under *Daubert v Merrell Dow Phar., Inc.*, 509 U.S. 579, 113 S.Ct. 2786 (1993), *Kumho Tire Co., Ltd. V. Carmichael*, 526 U.S. 137, 119 S.Ct. 1167 (1999), and that Plaintiffs be prohibited

from discussing or offering these opinions in any form at trial, and for further and other relief, at law or in equity, to which it may also have shown itself entitled.

Respectfully submitted,



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CERTIFICATE OF SERVICE

I hereby certify that on this the 18th day of February, 2005, a true and correct copy of the foregoing was hand-delivered to the following counsel of record:

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February 25, 2004

Mr. James Perdue
Attorney at Law
Perdue Law Firm
Wortham Tower
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Re: Rod v Ford Motor Company
File: ACS 01-0404

Dear Mr. Perdue:

EXPERT QUALIFICATIONS:

I have acquired extensive academic education, knowledge and experience as well as diagnostic theory and function expertise over the past 40 years relative to the design, manufacture, assembly, application, installation, maintenance and repair of vehicular drive train components inclusive of transmissions and transfer cases. My experience is inclusive of the mechanical and electronic sub-components ranging from 1940's fully mechanical range and gear selection systems to the current electronic "shift on the fly" [ESOF] electromechanical systems. I have specific related training, education and experience relative to my expertise in the design, theory and functions of transfer case sub-components including, but not necessarily limited to, spur and helical gear trains, planetary gear systems, intermodal drive systems, synchromesh systems and chain drive systems in addition to ancillary mechanical gear selection mode control systems and electromechanical gear selection mode control systems. [Re: CV-Exhibit "A"]

CURRENT RATES:

- A. \$ 300.00/hr = Investigation/Consultation
- B. \$ 375.00/hr = Deposition/Trial Testimony

February 25, 2004
RE: Rod v Ford Motor Co.
Page two

SUPPLEMENTAL REPORT OF FINDINGS:

Pursuant to your request, please be advised that the subject vehicle involved in the above referenced matter, a 1999 Ford Light Truck model F-350 Crew Cab 4x4, was preliminarily inspected in a non-intrusive, non-invasive and/or non-destructive manner on July 1, 2003 including, but not necessarily limited to, the body, steering, suspension, powertrain and drivetrain component vehicular systems. This examination was for the purpose of determining, per appropriate scientific methodological evaluation and testing techniques, the existence of potential mechanical, electrical, electronic, electromechanical and/or hydraulic malfunction defects or elemental principle conditions that could be considered a proximate cause(s) or significant factor(s) relative to accident causation and/or the resultant occupant injury mechanisms per the event sequence within a reasonable degree of scientific and technological certainty as documented per written notation and photographically in the Montgomery County Sheriff's Department Field Notes Form #00A006672, describing witness observations and officer investigation as they relate the above incident that occurred on May 5, 2000. Subsequent to the initial subject vehicle examination on July 01, 2003, the following activities were performed:

1. An exemplar vehicle was purchased to facilitate additional transfer case electronic/mechanical systems testing and evaluation inclusive of comparative subject/exemplar vehicle transfer case electromechanical interface functional analysis. Data acquisition was facilitated by the application of the following instrumentation:

- a) New Generation Star Tester [NGS] *

Vehicle Interface Module No. 1

Ford Rotunda

007-00500 Series

Hickok Automotive Sensors Division

* = Analyzer utilized at accident site for SV [similar] and EV Analysis

- b) GenRad Analyzer

Model GDS 3500

Part No. 418-F224 Rev 04

Serial No. 9266628505**

** = Analyzer utilized at 10/21/03 SV Inspection [similar] and EV Analysis

February 25, 2004
RE: Rod v Ford Motor Co.
Page three

2. The exemplar vehicle was additionally utilized for the surrogate analysis testing inclusive of surrogate subject/component mechanical and biomechanical determination relative to proximity, accessibility and force requirements necessary to actuate the transmission outer manual lever assembly. The testing was photographically documented and demonstrates the fact that Mr. Rod could not have reached the transmission outer manual lever either from the point of rest position nor the pre-point of rest position. The testing further demonstrates that the surrogate could only apply 15+/- # to the outer manual lever with a fully outstretched arm and the required force to momentarily release the lever from latched Park Mode is 35 +/- #. Additionally, when the transmission outer manual lever is momentarily actuated, the maximum vehicle rearward motion on the 6% test grade is 5.00", which is insufficient distance to result in the biomechanical injury mechanism incurred by Mr. Rod nor is it consistent with his point of rest position/configuration per the accident scene photographs.
3. An exemplar transfer case assembly was acquired, disassembled, sectioned and reassembled in order to evaluate and demonstrate the OEM functional properties as they relate to the accident factual conditions. Specifically, this sectioned transfer case exhibits the range selector fork and sliding gear functional properties inclusive of the range selector "neutral" mode and the fork "pads" function as well as the subsequent redesign and reconfiguration issues of said "pads", which was realized upon the purchase of components for the exemplar sectioned transfer case assembly. The extremely deteriorated condition of the range selector fork "pads" in the subject vehicle transfer case would, more likely than not, compromise the shift selection durability and reliability on an intermittent basis causing a momentary "neutral" condition inducing a free roll mode in reverse on a 6% +/- grade, which would be consistent with the facts of Mr. Rod's accident.
4. The subject vehicle transfer case with GEM module data was downloaded utilizing the GenRad Analyzer in the presence of all parties, and the transfer case was disassembled to facilitate sub-component examination, testing and evaluation during the October 21, 2003 inspection located at Jack Roach Ford in Huston, TX. The significant transfer case related Diagnostic Trouble Codes retrieved from the SV GEM are as follows:
 - a) ODDTC's [On Demand Diagnostic Trouble Codes]

February 25, 2004
RE: Rod v Ford Motor Co.
Page four

- 1) P1876 - GEM = Transmission Transfer Case 2 Wheel Drive Solenoid Circuit Failure
 - 2) B1575 - GEM = Not Decoded in Data Sheet Supplied By Ford
 - b) CMDTS's [Continuous Memory Diagnostic Trouble Codes]
 - 1) C1728 - GEM = Transfer Case unable to Transition Between 2H and 4H
 - 2) P1812 - GEM = Transmission 4-Wheel Drive Mode Select Circuit Failure
 - 3) P1866 - GEM = Transmission Transfer Case System Concern – Servicing required
 - 4) P1876 - GEM = Transmission Transfer Case 2-Wheel Drive Solenoid Circuit Failure
5. The exemplar vehicle was subjected to a series of test sequences to facilitate specific transfer case electronic/mechanical systems function and evaluation inclusive of comparative subject/exemplar vehicle transfer case electromechanical interface analysis. Data acquisition was facilitated by the application of the instrumentation as alphanumerically identified in section 1. The ODDTC's and CMDTC's generated as the resultant of the multiple baseline and induced failure modes clearly demonstrate and confirm the subject vehicle probable condition prior to as well as at the time of the accident. Specifically, given the intermittent nature of the failure mechanism, the non-appearance of the failure codes during the post accident NGS download would not be indicative of the pre-accident conditions given the subject vehicle engine was turned off and restarted 3x+ prior to the download, which presents a code erasure condition if the problem was resolved at the time of the 2nd engine start cycle. Additionally, the exterior and interior of the electrical connectors to the GEM undercarriage componentry [motor, etc.] were observed to exhibit localized concentrations of evaporated water and soil/mud residues inclusive of beach witness marks which suggest the probability and is consistent with an intermittent malfunction of the transfer case gear selection system as well as the ODDTC/CDDTC failure code occurrence, release and correction factors as described above per sections #4 and #5

February 25, 2004
 RE: Rod v Ford Motor Co.
 Page five

The subject vehicle alphanumeric identification is documented in the following matrix as well as photographically:

SUBJECT VEHICLE IDENTIFICATION

MANUFACTURER: FORD MOTOR COMPANY
 DIVISION: FORD → LIGHT TRUCK
 MODEL: PICK-UP TRUCK → F-350 CREW CAB → 4X4 → XLT SUPER DUTY ..
 DOM:03/99 → 1999
 VIN: 1FTSW31F5XED97861
 LIC: 2WL-M09 TX
 ODO: 039,830/1 TRIP: 925.6
 CLR: RED
 ENG: 7.3L/V-8 DIESEL TURBO DI → NAVISTAR
 TRN: AUTOMATIC O/D → P-R-N-D-2-1 → COLUMN SELECTOR¹
 TRN CASE: . I/C INDICATOR/DASHBOARD CONTROL SWITCH² . CW ROTATION.
 a. 2WD → I/C=NO INDICATOR
 b. 4X4 HIGH → I/C= 4 X 4
 c. 4X4 LOW → I/C= 4 X 4 LOW RANGE
 ACC: .. P/S, P/B, C/C, T/W, P/STS, P/W, P/DL, A/C, 4X4 MANUAL/AUTO-MAN HUBS ..
 ELECTRIC BRAKE CONTROLLER [TEKONSHA]

¹=4R100 xC3P-LA PRB-AY/00064419 BD-9C15
 → BUILD DATE 03/15/99 → CODE "E"

²= NEW PROCESS MDL: 273F ASBY NO: F81A7A195
 → S/N 3 10 99 2 RATIO = 272

The exemplar vehicle alphanumeric identification is documented in the following matrix:

EXEMPLAR VEHICLE IDENTIFICATION

MANUFACTURER: FORD MOTOR COMPANY
 DIVISION: FORD → LIGHT TRUCK
 MODEL: PICK-UP TRUCK → F-350 CREW CAB → 4X4 → XLT SUPER DUTY ..
 DOM:06/98 → 1999
 VIN: 1FTSW31F1XEB22195
 LIC: CA-97635 AZ '04
 ODO: 105,744
 CLR: WHITE
 ENG: 7.3L/V-8 DIESEL TURBO DI → NAVISTAR
 TRN: AUTOMATIC O/D → P-R-N-D-2-1 → COLUMN SELECTOR¹
 TRN CASE: . I/C INDICATOR/DASHBOARD CONTROL SWITCH² . CW ROTATION.
 a. 2WD → I/C=NO INDICATOR
 b. 4X4 HIGH → I/C= 4 X 4
 c. 4X4 LOW → I/C= 4 X 4 LOW RANGE
 ACC: .. P/S, P/B, C/C, T/W, P/STS, P/W, P/DL, A/C, 4X4 MANUAL/AUTO HUBS

¹=4R100 xC3P-LA PRB-AY/00064419 BD-9C15
 → BUILD DATE 03/15/99 → CODE "E"

²= NEW PROCESS MDL: 273F ASBY NO: F81A7A195
 → S/N 3 10 99 2 RATIO = 272

February 25, 2004
RE: Rod v Ford Motor Co.
Page six

MATERIALS REVIEWED [referenced and/or relied upon in support of conclusions/opinions]

Please see Exhibit "C"

DISCUSSION

The incident at issue occurred as the subject vehicle was found by Ms. Michelle Rod at the family ranch-farm at Highway 105 and Highway 2854, approximately ¼ mile south on Highway 2854 in Montgomery, Texas on May 5, 2000 at 5:30 p.m.. Evidence established that the vehicle was parked and still running at the time of its discovery by Mrs. Rod. Mr. Randall Rod was observed under the subject vehicle in the area of the front left tire, and the subject vehicle transmission gear shift selector was observed in the "park" mode upon police arrival. Mr. Rod expired as a result of this incident due to vehicular application catastrophic compression induced injuries.

CSI [Crime Scene Investigation] Unit Representative Ike Cegielski noted that the transmission gear shift selector appeared to be in the "park" position as shown by the gear indicator [PRNDL]. The 4x4 range selector control switch located on the dashboard panel was observed to be in the "2 wheel" [2WD] drive position. The instrument cluster lower right quadrant indicator exhibited the "4 wheel drive low range" [4 X 4 LOW RANGE]. The parking brake was not engaged, and the subject vehicle was facing forward on a 5 to 7 degree upgrade in a stationary mode.

The subject vehicle did not exhibit significant factors or defects relative to operating systems specifically including, but not necessarily limited to, the steering, braking, suspension, drivetrain, safety systems and body foundational componentry that could be considered contributory elements relative to the causation of the accident given the understanding of the incident facts at this time with the exception of the 4 X 2 <> 4 X 4 H <> 4 X 4 L drive range selector electromechanical controls inclusive of the "Generic Electronic Module" [GEM] and related control programming functions with respect to durability, reliability and repeatability. Specifically, given the intermittent nature of the failure mechanism, the non-appearance of the failure codes during the post accident NGS download would not be indicative of the pre-accident conditions given the subject vehicle engine was turned off and restarted 3x+ prior to the download, which presents a code erasure condition if the problem was resolved at the time of the 2nd engine start cycle.

The subject vehicle foundational systems appeared to be observationally consistent relative to vehicle performance in the incident at issue with respect to OEM pre-incident design, manufacture,

February 25, 2004
RE: Rod v Ford Motor Co.
Page seven

assembly, application, installation and maintenance inclusive of statically observable qualitative and selected quantitative functional service properties and characteristics except as described above.

RECOMMENDED ACTIVITIES

1. Discovery → Interrogatories/Production of Documents
 - a) GEM [Generic Electronic Module] functions
 - b) PCM [Powertrain Control Module] functions
 - c) PVH [Vacuum Hub-lock Solenoid] functions

CONCLUSIONS/OPINIONS

1. The subject vehicle is defective and unreasonably dangerous with respect to the 4 X 2 ⇔ 4 X 4 H ⇔ 4 X 4 L transfer case range selection electromechanical control unit function as it relates to design, manufacture, assembly and/or performance durability and reliability in that the transfer case shift selector control unit has the potential to exhibit a sudden, unexpected, inadvertent and catastrophic electro-mechanical momentary neutral event as was more likely than not achieved in the transfer case, which overrode and momentarily nullified the transmission "park" mode and caused the subject vehicle to roll in reverse unpowered on a 6%+/- downgrade in a mechanically limited trajectory, suffocating and expiring Mr. Rod. At the time of the incident, the instrument cluster quadrant indicated "4 X 4 LOW RANGE" while the dashboard control switch was in the "2 WD" two wheel drive mode, suggesting within a reasonable degree of scientific and technological probability that the transfer case gear selector mechanism produced the above described intermittent and momentary neutral mode event, which would be inconsistent with OEM design and/or performance intent. The transfer case will not physically shift in to or out of 4 X 4 LOW RANGE unless the service brake is applied and the transmission gear shift selector is in the neutral mode. Therefore, if the service brake was not applied at the time of the incident and the transmission was in the "park" mode, the transfer case would have remained in 4 X 4

February 25, 2004
RE: Rod v Ford Motor Co.
Page eight

LOW RANGE when the dashboard control shift switch was moved to 2WD without any system failure, therefore, the limited motion of the subject vehicle suggests a malfunction consistent with the sequence described above.

2. In addition, there is a reasonable probability of an electro-mechanical malfunction in the transfer case Generic Electronic Module (GEM) controller mechanism, potentially enhanced by drive train wind up torsional elements and/or vehicle vibration/weight transfer were contributing factors to the above described event.
3. The subject vehicle's owner's manual information/documentation was defective since it did not adequately provide caution, warning or danger notifications nor the consequence of the action referencing potentially foreseeable intermittent and momentary neutral events in the transfer case that were or should have been known to the manufacturer. The owner's manual also does not adequately provide instructions on shifting between four wheel low range and two wheel drive as well as the consequence of the action. Additionally, the subject vehicle interior is defective and unreasonably dangerous in that it defectively did not display any conspicuous and/or non-conspicuous caution, warning and/or danger instructions regarding the use and hazards of the four wheel drive system, which could be located on the driver's side visor and/or the four wheel drive dashboard control mode switch.
4. The subject vehicle transfer case inclusive of control systems is defective and unreasonably dangerous within a reasonable degree of scientific and technological certainty per the above described conditions as they relate to the following factors:

February 25, 2004

RE: Rod v Ford Motor Co.

Page nine

- a) "Ordinary Consumer Expectation" relative to the durability, reliability and potentially dangerous conditions which may result from an intermittently malfunctioning transfer case gear selection mode incorporating a latent or hidden "neutral" mode
 - b) "State of the Art" Comparative manufacturers utilizing similar transfer cases incorporating and operator identifiable "neutral" selection mode [General Motors, et al.]
 - c) "Standard of the Industry" Comparative manufacturers utilizing similar transfer cases incorporating and operator identifiable "neutral" selection mode [General Motors, et al.]
 - d) "Durability Factors" relate to the long term electromechanical functioning of the transfer case mechanisms under a range of ambient and frequency of service conditions foreseeable to a manufacturer [prior GEM recall campaigns/redesigned range fork pads, adequate FMEA testing]
 - e) "Reliability Factors" relate to the confidence, accuracy and dependability of the transfer case electromechanical system functions under a manufacturer foreseeable range of service frequency and ambient conditions [prior GEM recall campaigns/redesigned range fork pads, adequate FMEA testing]
5. The following technically and economically feasible alternative designs would serve to reduce, minimize and/or eliminate the dangers associated with a sudden, unexpected and potentially catastrophic transfer case neutral condition bypassing the safety feature of transmission Park mode causing inadvertent and unexpected vehicle motion without prior warning to the vehicle operator and/or pedestrians in proximity of the vehicle:
- a) Mechanical elimination of a neutral range selection mode
 - b) Incorporation of a neutral instrument cluster indicated transfer case mode
 - c) Warning of a potential neutral condition inclusive of the associated dangers
 - d) The necessary application of the service brake necessary to complete the shift sequence serves as notice to the manufacturer since this action would prevent inadvertent motion during the shift sequence while the transfer case passes through the neutral zone
 - e) Incorporation of weatherproof electrical connectors as applied to transfer case controls
 - f) Issuance of a "recall campaign" with respect to the range shift fork redesigned pads

February 25, 2004

RE: Rod v Ford Motor Co.

Page ten

g) Issuance of a "technical Service Bulletin" with respect to the range shift fork redesigned pads


6. The above stated opinions have been derived through the valid application of the appropriate scientific methodology analytical techniques and are therefore held within a reasonable degree of scientific and technological certainty with respect to event probable causative factors.

In addition, it is imperative at this time, given the scope and nature of this investigation, to retain the subject vehicle inclusive of specific sub-componentry in the post incident evidentiary integral condition and not conduct any type of invasive, intrusive or otherwise destructive testing or disassembly until such time as all probable interested parties can be present to observe and the proper test or disassembly protocol[s] are approved by all interested parties so as not to compromise the proprietary evidentiary interests of any one party with respect to individual party liability factors.

This Letter of Findings covers the most significant points of the general investigation to date. This report is technically supported and supplemented with existing discovery as well as test sequence detail contained in the comprehensive field notes, inclusive of diagrams, photographs and relevant qualitative and quantitative statistical data and measurements which is kept on file at Automotive Consulting Services, Inc. and will be available pursuant to your request. Based on the scope and nature of this supplemental report and ongoing investigation [including, but not necessarily limited to, discovery interrogatories and production of documents as well as defense expert reports and depositions], this writer reserves the right to modify and amend any opinions stated herein should additional information become available that would have an effect on the basis of the opinions stated at this time.

In the event further clarification or investigation is deemed necessary in this matter with respect to the conclusions and opinions as stated herein, please do not hesitate to contact this office at your earliest convenience.

Very truly yours,



Gerald Rosenbluth
For the firm
GR/pls

Attachments:

- "A" - Curriculum Vitae of Mr. Gerald Rosenbluth
- "B" - Deposition/Trial Index for the Past 4 Years
- "C" - ACS, Inc. Case File Index dated February 25, 2004